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IN THE UNITED STATES PATENT OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re: Jason C. Pearson,  
Max A. Weaver, and  
Michael J. Cyr

Art Unit: 1714  
Examiner: K. A. Sanders

Date filed: September 10, 2003

Docket No.: 71593

Serial No.: 10/659,225  
Confirmation No.: 5733

Date Mailed: January 12, 2007

Title: Method For Reducing The Acetaldehyde Level in Polyesters

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Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

ATTENTION: BOARD OF PATENT APPEALS AND INTERFERENCES

**CERTIFICATE OF MAILING 37 CFR 1.8(a)**

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January 12, 2007

Date

Mark L. Davis

Mark L. Davis

**AMENDED APPEAL BRIEF**

**37 C.F.R. §41.37 (d)**

This amended appeal brief is in reply to the Notice of Non-Compliant Appeal Brief mailed December 14, 2006, and having a one month or 30 day period for reply. Specifically, the examiner noted that the appeal brief did not identify each independent claim subject to the appeal and did not map each independent claim subject to the appeal to the specification by page and line number. Applicants, pursuant to MPEP 1205.03, are providing only a summary of the claimed subject matter as required by 37 CFR 41.37(c)(1)(v).

Included with this paper is an associate power of attorney and change of correspondence address.

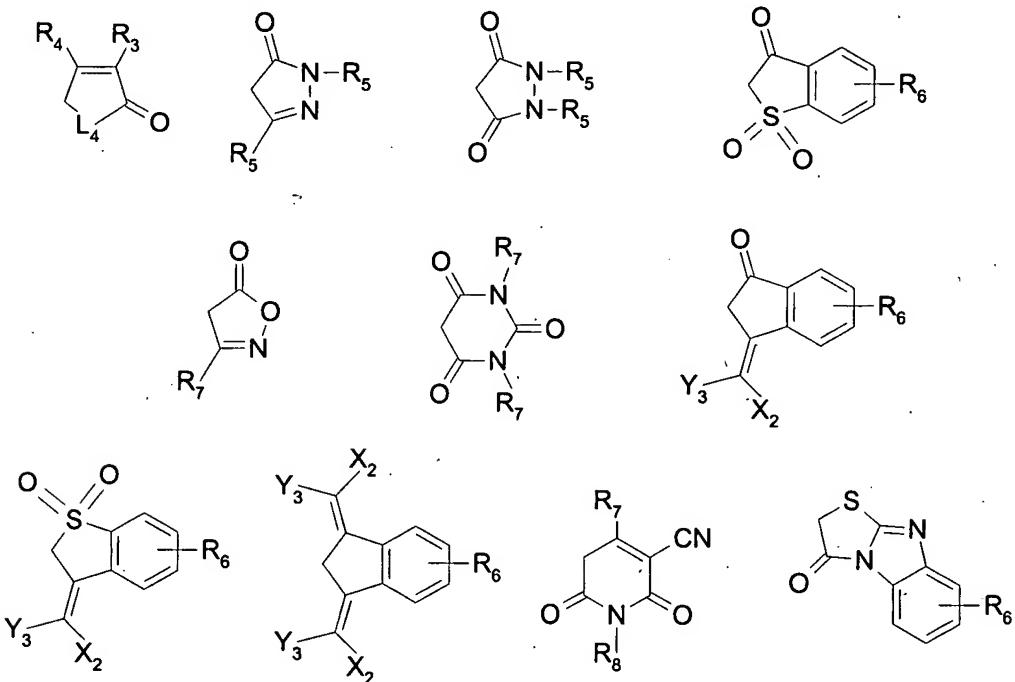
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## SUMMARY OF INVENTION

### Independent claim 53

In one embodiment, subject to an election of specie, the invention is directed to a polyester composition having at least one additive that is capable of reacting with acetaldehyde to form a new carbon-carbon bond, (page 5, lines 6-10).

The additive is selected from the group consisting of cyclic active methylene compounds represented by the following formulae:



(page 6, lines 11-15), wherein:

R<sub>3</sub> is selected from C<sub>1</sub>-C<sub>6</sub>-alkoxycarbonyl, cyano, heteroaryl, (page 6, line 16);

R<sub>4</sub> is selected from aryl and heteroaryl, (page 6, line 17);

R<sub>5</sub> is selected from hydrogen, C<sub>1</sub>-C<sub>6</sub>-alkyl, substituted C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>3</sub>-C<sub>8</sub>-cycloalkyl and aryl, (page 7, lines 1-2);

$R_6$  is selected from hydrogen,  $C_1$ - $C_6$ -alkyl,  $C_1$ - $C_6$ -alkoxy, halogen, cyano,  $C_1$ - $C_6$ -alkoxycarbonyl, trifluoromethyl, hydroxy,  $C_1$ - $C_6$ -alkanoyloxy, aroyl,  $C_1$ - $C_6$ -alkylthio,  $C_1$ - $C_6$ -alkylsulfonyl, carbamoyl, sulfamoyl, - $NHCOR_9$ , - $NHSO_2R_9$ , - $CONHR_9$ , - $CON(R_9)_2$ , - $SO_2NHR_9$  and - $SO_2N(R_9)_2$ ; wherein  $R_9$  is selected from  $C_1$ - $C_6$ -alkyl, substituted  $C_1$ - $C_6$ -alkyl,  $C_3$ - $C_8$ -cycloalkyl and aryl, (page 7, lines 5-10);

$R_7$  is selected from hydrogen,  $C_1$ - $C_6$ -alkyl, and aryl, (page 7, line 12);

$X_2$  and  $Y_3$  are independently selected from cyano,  $C_1$ - $C_6$ -alkylsulfonyl, arylsulfonyl and  $C_1$ - $C_6$ -alkoxycarbonyl, (page 6, lines 6-7);

$R_8$  is selected from hydrogen,  $C_1$ - $C_6$ -alkyl, substituted  $C_1$ - $C_6$ -alkyl,  $C_3$ - $C_8$ -cycloalkyl,  $C_3$ - $C_8$ -alkenyl,  $C_3$ - $C_8$ -alkynyl and aryl, (page 7, lines 14-15); and

$L_4$  is selected from - $O$ -, - $S$ - and - $N(R_{10})$ -, wherein  $R_{10}$  is selected from hydrogen,  $C_1$ - $C_6$ -alkyl,  $C_3$ - $C_8$ -cycloalkyl and aryl, (page 7, lines 17-18).

Additionally, the terms " $C_1$ - $C_{22}$ -alkyl" and " $C_1$ - $C_6$ -alkyl", denote saturated hydrocarbon radicals or moieties that contains one to twenty-two carbons and one to six carbons, respectively, and which may be straight or branched-chain. Such  $C_1$ - $C_{22}$  alkyl and  $C_1$ - $C_6$ -alkyl, groups can be selected from methyl, ethyl, propyl, butyl, pentyl, hexyl, heptyl, octyl, isopropyl, isobutyl, tertbutyl, neopentyl, 2-ethylheptyl, 2-ethylhexyl, and the like, (page 10, lines 11-16).

The terms "substituted  $C_1$ - $C_{22}$ -alkyl" and "substituted  $C_1$ - $C_6$ -alkyl" refer to  $C_1$ - $C_{22}$ -alkyl radicals and  $C_1$ - $C_6$ -alkyl radicals as described above that may be substituted with one or more substituents selected from hydroxy, halogen, cyano, aryl, heteroaryl,  $C_3$ - $C_8$ -cycloalkyl, substituted  $C_3$ - $C_8$ -cycloalkyl,  $C_1$ - $C_6$ -alkoxy,  $C_1$ - $C_6$ -alkanoyloxy,  $C_1$ - $C_6$ -alkoxycarbonyl,  $C_1$ - $C_6$ -alkylthio,  $C_1$ - $C_6$ -alkylsulfonyl and the like, (page 10, lines 17-22).

The term " $C_3$ - $C_8$ -cycloalkyl" is used to denote a cycloaliphatic hydrocarbon radical containing three to eight carbon atoms, (page 10, lines 23-24).

The term "substituted  $C_3$ - $C_8$ -cycloalkyl" is used to describe a  $C_3$ - $C_8$ -cycloalkyl radical as detailed above containing at least one group selected from  $C_1$ - $C_6$ -alkyl,  $C_1$ - $C_6$ -alkoxy, hydroxy, halogen, and the like, (page 10, lines 25-27).

The term "aryl" is used to denote an aromatic ring system containing 6,10 or 14 carbon atoms in the conjugated aromatic ring structure and these ring systems substituted with one or more groups selected from  $C_1$ - $C_6$ -alkyl;  $C_1$ - $C_6$ -alkoxycarbonyl;  $C_1$ - $C_6$ -alkoxy; phenyl, and

phenyl substituted with C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy, halogen and the like; C<sub>3</sub>-C<sub>8</sub>-cycloalkyl; halogen; hydroxy; cyano; trifluoromethyl and the like. Typical aryl groups include phenyl, naphthyl, phenylnaphthyl, anthryl (anthracenyl) and the like, (page 10, line 28 - page 11, line 5).

The term "heteroaryl" is used to describe conjugated cyclic radicals containing at least one heteroatom selected from sulfur, oxygen, nitrogen or a combination of these in combination with from two to about ten carbon atoms and these heteroaryl radicals substituted with the groups mentioned above as possible substituents on the aryl ring. Typical heteroaryl ring systems include: furyl, thienyl, pyrrolyl, imidazolyl, pyrazolyl, thiazolyl, isothiazolyl, oxazolyl, isoxazolyl, triazolyl, thiadiazolyl, oxadiazolyl, tetrazolyl, thiatriazolyl, oxatriazolyl, pyridyl, pyrimidyl, pyrazinyl, pyridazinyl, thiazinyl, oxazinyl, triazinyl, thiadiazinyl, oxadiazinyl, dithiazinyl, dioxazinyl, oxathiazinyl, tetrazinyl, thiatriazinyl, oxatriazinyl, dithiadiazinyl, imidazolinyl, dihydropyrimidyl, tetrahydropyrimidyl, tetrazolo-[1,5-b]pyridazinyl and purinyl, benzoxazolyl, benzothiazolyl, benzimidazolyl, indolyl, and the like, (page 11, lines 6-17).

The term "halogen" is used to represent fluorine, chlorine, bromine, and iodine, (page 11, lines 18-19).

The term "C<sub>2</sub>-C<sub>22</sub>-alkylene" is used to denote a divalent hydrocarbon group that contains from two to twenty-two carbons and which may be straight or branched chain and which may be substituted with one or more substituents selected from hydroxy, halogen, C<sub>1</sub>-C<sub>6</sub>-alkoxy, C<sub>1</sub>-C<sub>6</sub>-alkanoyloxy and aryl, (page 11, lines 20-24).

The term "C<sub>3</sub>-C<sub>8</sub>-cycloalkylene" is used to denote divalent cycloaliphatic groups containing three to eight carbon atoms and these are optionally substituted with one or more C<sub>1</sub>-C<sub>6</sub>-alkyl groups, (page 11, lines 25-27).

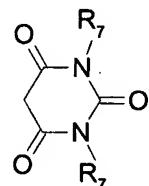
The term "arylene" is used to denote 1,2-, 1,3-, and 1,4-phenylene or naphthalene-diyl groups and such groups optionally substituted with C<sub>1</sub>-C<sub>6</sub>- alkyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy and halogen, (page 11, lines 28-30).

The terms "C<sub>1</sub>-C<sub>6</sub>-alkoxy", "C<sub>1</sub>-C<sub>6</sub>-alkylthio", "C<sub>1</sub>-C<sub>6</sub>-alkylsulfonyl", "C<sub>1</sub>-C<sub>6</sub>- alkanoyloxy", "C<sub>1</sub>-C<sub>6</sub>-alkoxycarbonyl" are used to denote the following radicals, respectively: -OR<sub>11</sub>, -S-R<sub>11</sub>, -O<sub>2</sub>S-R<sub>11</sub>, -OCO-R<sub>11</sub> and -CO<sub>2</sub>R<sub>11</sub>, wherein R<sub>11</sub> represents C<sub>1</sub>-C<sub>6</sub>-alkyl and substituted C<sub>1</sub>-C<sub>6</sub>-alkyl, (page 12, lines 1-4).

The term "aroyl" is used to represent -OC-aryl, wherein aryl is as previously defined, (page 12, lines 5-6).

The terms "C<sub>3</sub>-C<sub>8</sub>-alkenyl" and "C<sub>3</sub>-C<sub>8</sub>-alkynyl" are used to denote branched or straight chain hydrocarbon radicals containing at least one double bond and one triple bond, respectively, (page 12, lines 7-9).

In independent claim 53, the examiner's requirement for election of specie of cyclic compounds having an active methylene moiety, the invention includes a polyester having an additive that is capable of forming a new carbon to carbon bond wherein the additive has the formula:



wherein R<sub>7</sub> is as defined above.

Respectfully submitted,

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**Reel/Frame:** 014322/0170**Page:****Recorded:** 02/10/2004**Conveyance:** ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).**Total properties: 1**

<b>1 Patent #:</b> NONE	<b>Issue Dt:</b>	<b>Application #:</b> 10659225 <b>Filing Dt:</b> 09/10/2
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<b>Publication #:</b> <u>US20050054757</u>	<b>Pub Dt:</b> 03/10/2005
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<b>Title:</b> Method for reducing the acetaldehyde level in polyesters
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CERTIFICATE OF MAILING UNDER 37 CFR § 1.8

I hereby certify that a Statement under 37 CFR 3.73(b) for showing the chain of title for the above-identified patent application is on the date shown above, being deposited with the United States Postal service with sufficient postage as first class mail, in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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